

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

Claim 1 (Currently amended): A computer-readable storage medium with computer-readable instructions, the computer-readable storage medium comprising:

instructions for an operating system, the operating system configured to effectuate a user mode and a kernel mode, the operating system comprising a file system integrated with a database management program, the operating system configured to store, while in kernel mode, data in the file system as file streams, and generate, while in kernel mode, Items associated with the file streams in the database management program, the ~~for a hardware/software interface system for a computer system, wherein said hardware/software interface system manipulates a plurality of discrete units of information, Items, said Items interconnected by a plurality of Relationships managed by said~~ database management program of the operating system ~~hardware/software interface system~~, each of said Items having a boundary comprising an item type, applicable subtype information, complex type properties and extensions if any, and a list of the other Items owned by the Item and paths to the file streams stored in the file system, further wherein the list of other Items owned by the Item identifies other Items the Item extends an owning relationship to, further wherein an Item that extends an owning relationship controls at least the life time of the relationship; and

instructions for the database management program of the operating system to generate, while in kernel mode, ~~a hardware/software interface system~~ the owning relationship extending from a first Item to a second Item, wherein an owning relationship extending from the first Item to the second Item denotes to said database management program of the operating system ~~hardware/software interface system~~ that a file stream associated with content of said second Item is publicly accessible to said first Item, and a lack of an owning relationship extending back from said second Item to said first Item denotes to said database management program of the operating system ~~hardware/software interface system~~ that a file stream associated with content of said first Item is inaccessible to said second Item.

Claim 2 (Canceled)

Claim 3 (Currently amended): The computer-readable medium of claim 1 wherein the Relationship from said first Item to said second Item logically denotes in said database management program of the operating system ~~hardware/software interface system~~ that said second Item is public and accessible to said first Item.

Claim 4 (Previously presented): The computer-readable medium of claim 1 wherein said first Item is an Item Folder.

Claim 5 (Original): The computer-readable medium of claim 4 wherein said second Item is an Item Folder.

Claim 6 (Original): The computer-readable medium of claim 4 wherein said second Item is a Category.

Claim 7 (Original): The computer-readable medium of claim 4 wherein said second Item is an Item that is not an Item Folder or a Category.

Claim 8 (Previously presented): The computer-readable medium of claim 1 wherein said first Item is a Category.

Claim 9 (Original): The computer-readable medium of claim 8 wherein said second Item is an Item Folder.

Claim 10 (Original): The computer-readable medium of claim 8 wherein said second Item is a Category.

Claim 11 (Original): The computer-readable medium of claim 8 wherein said second Item is an Item that is not an Item Folder or a Category.

Claim 12 (Previously presented): The computer-readable medium of claim 1 wherein said first Item is an Item that is not an Item Folder or a Category.

Claim 13 (Original): The computer-readable medium of claim 12 wherein said second Item is an Item Folder.

Claim 14 (Original): The computer-readable medium of claim 12 wherein said second Item is a Category.

Claim 15 (Original): The computer-readable medium of claim 12 wherein said second Item is not an Item Folder or a Category.

Claim 16 (Previously presented): The computer-readable medium of claim 1 wherein said second Item is an Item Folder.

Claim 17 (Previously presented): The computer-readable medium of claim 1 wherein said second Item is a Category.

Claim 18 (Previously presented): The computer-readable medium of claim 1 wherein said second Item is an Item that is not an Item Folder or a Category.

Claim 19-32 (Canceled)

Claim 33 (Previously presented): The computer-readable medium of claim 12 wherein said second Item has a Relationship to said first Item.

Claim 34 (Currently amended): The computer-readable medium of claim 33 wherein said Relationship from said first Item to said second Item logically denotes in said database management program of the operating system ~~hardware/software interface system~~ that the file stream associated with said second Item is public and accessible to said first Item, and wherein said Relationship from said second Item to said first Item logically denotes in said database management program of the operating system ~~hardware/software interface system~~ that said file stream associated with the first Item is public and accessible to said second Item.

Claim 35-38 (Canceled)

Claim 39 (Original): The computer-readable medium of claim 33 wherein said first Item is a Category.

Claim 40 (Original): The computer-readable medium of claim 39 wherein said second Item is an Item Folder.

Claim 41 (Original): The computer-readable medium of claim 39 wherein said second Item is a Category.

Claim 42 (Original): The computer-readable medium of claim 39 wherein said second Item is an Item that is not an Item Folder or a Category.

Claim 43 (Original): The computer-readable medium of claim 33 wherein said first Item is an Item that is not an Item Folder or a Category.

Claim 44 (Original): The computer-readable medium of claim 43 wherein said second Item is an Item Folder.

Claim 45 (Original): The computer-readable medium of claim 43 wherein said second Item is a Category.

Claim 46 (Original): The computer-readable medium of claim 43 wherein said second Item is not an Item Folder or a Category.

Claim 47 (Original): The computer-readable medium of claim 1 wherein each Item from among said Items has a Relationship to at least one other Item.

Claim 48 (Original): The computer-readable medium of claim 1 wherein a subset of Items comprise Item Folders.

Claim 49 (Original): The computer-readable medium of claim 1 wherein a subset of Items comprise Categories.

Claim 50 (Original): The computer-readable medium of claim 1 wherein a subset of Items comprise Items that are not Item Folders or Categories.

Claim 51 (Currently amended): A computer system, the computer system comprising:  
hardware including a computer readable storage medium;  
instructions for an operating system stored in the computer readable storage medium,  
the operating system configured to manage the hardware, the operating system comprising a

file system integrated with a database management program, a first portion of the operating system configured to operate in a user mode and a second portion of the operating system configured to operate in a kernel mode;

the operating system further configured to store, while in kernel mode, data in the file system as file streams, and generate, while in kernel mode, Items associated with the file streams in the database management program of the operating system, the A  
~~hardware/software interface system for a computer system, wherein said hardware/software interface system manipulates a plurality of discrete units of information at a hardware/software interface system level, Items, said Items interconnected by Relationships at said hardware/software interface system level, each of said Items having a boundary comprising an item type, applicable subtype information, complex type properties and extensions if any, and a list of the other Items owned by the Item and paths to the file streams stored in the file system, further wherein the list of other Items owned by the Item identifies other Items the Item extends an owning relationship to, further wherein an Item that extends an owning relationship controls at least the life time of the relationship; and~~

the database management program of the operating system ~~the hardware/software interface system~~ configured to generate, while in kernel mode, an owning relationship extending from a first Item to a second Item, wherein the owning relationship extending from the first Item to the second Item denotes to said database management program of the operating system ~~hardware/software interface system~~ that a file stream associated with  
~~content of~~ said second Item is publicly accessible to said first Item, and a lack of an owning Relationship extending back from said second Item to said first Item denotes to said database management program of the operating system ~~hardware/software interface system~~ that a file stream associated with ~~content of content of~~ said first Item is inaccessible to said second Item.

Claim 52 (Canceled)

Claim 53 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein the Relationship from said first Item to said second Item logically denotes in said database management program of the operating system ~~hardware/software interface system~~ that said file stream associated with the second Item is public and accessible to said first Item.

Claim 54 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein said first Item is an Item Folder.

Claim 55 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein said first Item is a Category.

Claim 56 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein said first Item is an Item that is not an Item Folder or a Category.

Claim 57 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein said second Item is an Item Folder.

Claim 58 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein said second Item is a Category.

Claim 59 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein said second Item is an Item that is not an Item Folder or a Category.

Claim 60 (Canceled)

Claim 61 (Canceled)

Claim 62 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein said second Item has a Relationship to said first Item.

Claim 63 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 62 wherein said Relationship from said first Item to said second Item logically denotes in said database management program of the operating system ~~hardware/software interface system~~ that said file stream associated with the second Item is public and accessible to said first Item, and wherein said Relationship from said second Item to said first Item logically denotes in said database management program of the operating system ~~hardware/software interface system~~ that said file stream associated with the first Item is public and accessible to said second Item.

Claim 64 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein each Item from among said Items has a Relationship to at least one other Item.

Claim 65 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein a subset of Items comprise Item Folders.

Claim 66 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein a subset of Items comprise Categories.

Claim 67 (Currently amended): The database management program of the operating system ~~hardware/software interface system~~ of claim 51 wherein a subset of Items comprise Items that are not Item Folders or Categories.

Claim 68 (Currently amended): A method for organizing data in a computer system,  
the method comprising:

receiving, from an application operating in user space of an operating system, a  
request to save data to a file system, wherein the operating system comprises the file system  
and the file system is integrated with a database management program;

saving, by the operating system while in kernel mode, the data to the file system a file  
stream;

generating, by the database management program while in kernel mode,  
manipulating, in a hardware/software interface system for a computer system, a plurality of  
discrete units of information at a hardware/software interface system level, an Item[[s]],  
associated with the file stream ~~said method comprising interconnecting said Items by~~  
~~Relationships at said hardware/software interface system level,~~ each Item stored in the  
database management program ~~of said Items~~ having a boundary comprising an item type,  
applicable subtype information, complex type properties and extensions if any, and a list of  
the other Items owned by the Item and paths to associated file streams stored in the file  
system, further wherein the list of other Items owned by the Item identifies other Items the  
Item extends an owning relationship to, further wherein an Item that extends an owning  
relationship controls at least the life time of the relationship; and

generating, by the database management program while in kernel mode ~~said~~  
~~hardware/software interface system,~~ an owning relationship extending from a first Item to a  
second Item, wherein the owning relationship extending from the first Item to the second  
Item denotes to said database management program ~~hardware/software interface system~~ that  
a file stream content ~~of said second Item~~ is publicly accessible to said first Item, and a lack of  
an owning relationship extending back from said second Item to said first Item denotes to  
said database management program ~~hardware/software interface system~~ that a file stream  
~~content~~ ~~of said first Item~~ is inaccessible to said second Item.

Claim 69 (Canceled)



Claim 70 (Currently amended): The method of claim 68 further comprising the step of denoting in database management program ~~hardware/software interface system~~ that, due to said Relationship, said second Item is public and accessible to said first Item.

Claim 71 (Previously presented): The method of claim 68 wherein said first Item is an Item Folder.

Claim 72 (Previously presented): The method of claim 68 wherein said first Item is a Category.

Claim 73 (Previously presented): The method of claim 68 wherein said first Item is an Item that is not an Item Folder or a Category.

Claim 74 (Previously presented): The method of claim 68 wherein said second Item is an Item Folder.

Claim 75 (Previously presented): The method of claim 68 wherein said second Item is a Category.

Claim 76 (Previously presented): The method of claim 68 ~~69~~ wherein said second Item is an Item that is not an Item Folder or a Category.

Claim 77 (Canceled)

Claim 78 (Canceled)

Claim 79 (Previously presented): The method of claim 68 further comprising the step of extending a Relationship from said second Item to said first Item

Claim 80 (Currently amended): The method of claim 79 wherein said Relationship from said first Item to said second Item logically denotes in said database management program ~~hardware/software interface system~~ that said file stream associated with the second Item is public and accessible to said first Item, and wherein said Relationship from said second Item to said first Item logically denotes in said database management program

~~hardware/software interface system~~ that said file stream associated with the first Item is public and accessible to said second Item.

Claim 81 (Original): The method of claim 68 wherein each Item from among said Items has a Relationship to at least one other Item.

Claim 82 (Original): The method of claim 68 wherein a subset of Items comprise Item Folders.

Claim 83 (Original): The method of claim 68 wherein a subset of Items comprise Categories.

Claim 84 (Original): The method of claim 68 wherein a subset of Items comprise Items that are not Item Folders or Categories.